

IN THE CLAIMS:

Page 10, before Claim 1, delete the following heading:

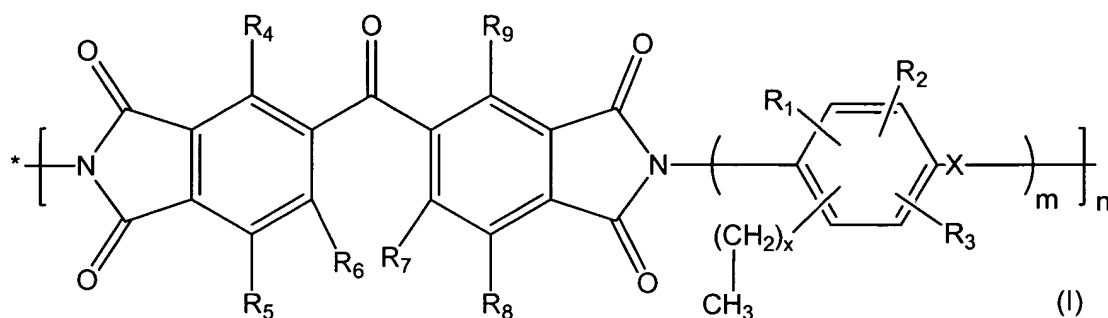
CLAIMS

Page 10, before Claim 1, insert the following new heading:

WHAT IS CLAIMED IS:

Please amend claims 1-7 as follows:

1. (Currently Amended) An optical waveguide comprising:
 - a) a support layer;
 - b) a core layer including a cross-linked polymeric material obtained by UV irradiation of a polyamide having repeating units of formula (I)

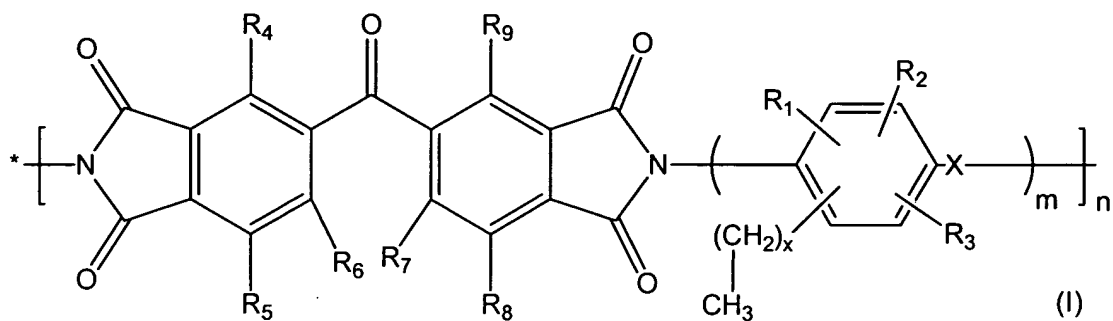


wherein R_1 , R_2 , and R_3 independently represent hydrogen or a (C₁-C₆)-alkyl group,

R_4 , R_5 , R_6 , R_7 , R_8 and R_9 independently represent hydrogen, a (C₁-C₆)-alkyl group, a (C₁-C₆)alkenyl or an aryl group;

X is selected from a covalent bond; a $(CH_2)_y$ group, wherein y is an integer from 1 to 10; O; S; NR, wherein R is (C_1-C_4) alkyl, x is 0-5, m is 1-10, and n is an integer having an average value of from 5 to 50,000, and the deuterated derivatives thereof.

2. (Currently Amended) ~~Optical~~ The optical waveguide according to claim 1, wherein R_1 , R_2 , R_3 and R_4 independently represent hydrogen or a (C_1-C_3) alkyl group.
3. (Currently Amended) ~~Optical~~ The optical waveguide according to claim 1, wherein said support has a refractive index lower than that of said cross-linked polymeric material.
4. (Currently Amended) ~~Optical~~ The optical waveguide according to claim 1, wherein said support layer is a glass layer.
5. (Currently Amended) ~~Optical~~ The optical waveguide according to claim 1, further comprising a cladding layer disposed over said core layer on the opposite side of that of the support layer.
6. (Currently Amended) ~~Method~~ A method for producing an optical waveguide comprising the steps of
 - a) spin-coating a polyimide of general formula (I)



wherein R_1 , R_2 , and R_3 independently represent hydrogen or a (C₁-C₆)alkyl group,

R_4 , R_5 , R_6 , R_7 , R_8 and R_9 independently represent hydrogen, a (C₁-C₆)alkyl group, a (C₁-C₆)alkenyl or an aryl group;

X is selected from a covalent bond; a (CH₂)_y group, wherein y is an integer from 1 to 10; O; S; NR, wherein R is (C₁-C₄)alkyl,

x is 0-5,

m is 1-10, and

n is an integer having an average value of from 5 to 50,000,

and the deuterated derivatives thereof,

on a substrate layer to obtain a film of the polyamide of formula (I);

and

b) irradiating the film with UV radiation according to a selected pattern.

7. (Current Amended) ~~Method~~ The method according to claim 6, further comprising the step of spin-coating a cladding layer over the core layer.

IN THE ABSTRACT:

Replace the abstract originally provided on the cover sheet of the PCT application with the new abstract as follows. A new abstract numbered page 12 is enclosed as the last page of the application following the claims.

ABSTRACT OF THE DISCLOSURE

An optical waveguide has a core layer made by a film containing a cross-linked polyamide based on a repeating unit of general formula (I) and a method for the production thereof.

